



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,948	07/31/2003	Farrokh Ayazi	062020-1430	1766
24504	7590	03/22/2004	EXAMINER	
THOMAS, KAYDEN, HORSTEMEYER & RISLEY, LLP 100 GALLERIA PARKWAY, NW STE 1750 ATLANTA, GA 30339-5948			BUDD, MARK OSBORNE	
			ART UNIT	PAPER NUMBER
			2834	

DATE MAILED: 03/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/631,948		AYAZI ET AL.	
	Examiner		Art Unit	
	Mark Budd		2834	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 13, 24-30 and 32-36 are rejected under 35 U.S.C. 102(a) as being anticipated by Newell (356), Newell (787) or Nakamura.

Each reference teaches a beam resonator constituted by a piezo element directly positioned on a semi-conductor substrate with a drive or sense electrode disposed on the other side of the piezo element. Note especially Newell (356) (Figs. 1-4, 6 and 7), Nakamura, figs. 1 and 3; and Newell (787) figures 1-5, 7 and 8.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14-23 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Newell (787), Newell (356) or Nakamura.

Newell and Nakamura teach the basic resonator structure as noted above. They do not explicitly teach an oxide layer over the semiconductor layer, a capacitor, or some specific quality factors. However, the references (note e-s Newell (356) col. 3 in. 51-col. 4 In-16) teach providing an insulator on the semi-conductor with an electric conductor on top of the insulator. Oxides are well known insulators (official notice taken). Standard 1c techniques are used and entire circuits are integrated onto the substrate;

Art Unit: 2834


thus it is obvious that a capacitor could be so located if it were part of the input/output circuitry. It has long been held that optimization of a known device for a particular application (e.g. via routine experimentation) is within the skill expected of the routineer. . Thus to select various desirable quality factors for the Newell and Nakamura structures would have been obvious to one of ordinary skill in the art.

Regarding applicant traversal of the restriction requirement, it is noted that applicant has not pointed out any specific error in the holding. Regarding applicants first point, the restriction is either proper or not. Perceived fairness is not an issue. Regarding point two, "independent and distinct" are specifically pointed out in the requirement as originally stated. Applicant has not demonstrated a lack of "serious burden" (note separate search areas are involved). "Similarly" of Groups is also not an issue regarding restriction. It is interesting that applicant won't state the separately grouped claims are obvious over each other, yet objects to the PTO saying the would support separate patents. One cannot have it both ways.

For the reasons noted above, the restriction requirement is hereby made final.

Budd/ds

03/11/04


MARK A. BUDD
PRIMARY EXAMINER
ART UNIT 2834